[redacted]
MSR 004
O P 151445Z
FM 6595 AEROSPACE TEST WG VAFB CALIF
TO SSD LOSA CALIF
6594 AEROSPACE TEST WG SUNNYVALE CALIF
LMSC SUNNYVALE CALIF
ZEN/LMSC VANDENBERG AFB CALIF
ZEN/DOUGLAS ACFT CO VANDENBERG AFB CALIF
INFO ZEN1STRATAD VANDENBERG AFB CALIF
5555 AEROSPACE TEST WG PATRICK AFB FLA
AFLC WRIGHT PATTERSON AFB OHIO
SBAMA NORTON AFB CALIF
[redacted] AFB CALIF
[redacted] VAFB CALIF

C R I T/ FROM VWZD-15-11-288-S, PRESTO FLASH
SSD FOR SSZD SENCLN 6594TW FOR COL MOORE SENCON LMSC/SUNNYVALE FOR
WRCA-3 /J.J. DRIEFUSS/ SENCLN LMSC/VAFB FOR DEPT 65-44 SENCLN DAC/
/AFB FOR MR HECKMAN. INFO CLN 1STRATAEROSAPCEDIV FOR COMMAND POST AND
WDOPO SENCLN AFLCSG/VAFB FOR MR YOUNG SENCLN 6555TW FOR COL WIGNALL
SENCLN SBAMA/NORTON AFB FOR SBVP SENCLN AFLC/WRIGHT PATTERSON FOR
MCGO. SUBJECT CLN FLASH REPORT ON THE LAUNCHING OF DISCOVERER 35.
1. DISCOVERER 35 CONSISTING OF THOR BOOSTER NO. 326 AND AGENA B
ORBITAL STAGE NO. 1118 WAS LAUNCHED FROM VAFB COMPLEX 75-3 PAD 4 AT
1322.46 PST ON 15 NOV 1961. THE PRIMARY LAUNCH OBJECTIVE CNM TO PLACE

CLASSIFICATION CHANGED TO
[redacted]
By Authority of HFR 205-2
6 APR 1966

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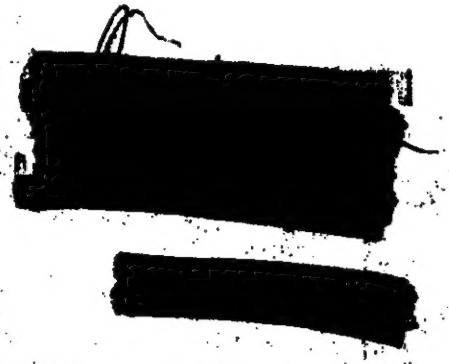
THE DISCOVERER SATELLITE WITH PAYLOAD IN A NEAR POLAR ORBIT WAS
ACCOMPLISHED. READINGS FROM THE VTS RADAR PLOTTING BOARD GAVE AN
INJECTION ALTITUDE OF 153 STATUE MILES CNM AN INJECTION INERTIAL
VELOCITY OF APPROXIMATELY 25700 FPS CNM AND AN INJECTION FLIGHT PATH
ANGLE OF ABOUT 0 DEG. TRACKING STATIONS AT KODIAK AND HAWAII HAVE
CONFIRMED ORBITAL STATUS THROUGH RECEPTION OF TELEMETRY AND RADAR
BEACON SIGNALS ON THE FIRST ORBITAL PASS.
2. PRELIMINARY EVALUATION INDICATES THE LAUNCH TEST OBJECTIVES WERE
ACHIEVED AS FOLLOWS CLN /REF. DETAILED TEST OBJECTIVES CNM LMSD
446484 CNM SECTION 2/.
A. DISCOVERER BOOSTER - OBJECTIVE ACHIEVED. AT BOOSTER CUTOFF VEHICLE
POSITION WAS WITHIN A SPHERE OF 5 NM RADIUS CNM FLIGHT PATH ANGLE
WAS WITHIN PLUS OR MINUS 4 DEG CNM AND VELOCITY WAS WITHIN 500 FPS OF
THE NOMINAL VALUE. BOOSTER STEERING AND EVENT COMMANDS WERE GENERATED
AND TRANSMITTED SATISFACTORILY BY THE GROUND GUIDANCE SYSTEM AND VEHICLE
RESPONSE TO THE COMMANDS APPEARS TO HAVE BEEN PROPER. MECO OCCURRED
AT T PLUS 147.6 SEC AS A RESULT OF COMMAND FROM THE GROUND GUIDANCE
SYSTEM. VERNIER ENGINE SOLO OPERATION LASTED 8.8 SEC WITH VECO
OCCURRING AT T PLUS 156.4 SEC. SEPARATION WAS INITIATED BY GROUND
GUIDANCE COMMANDS AT T PLUS 162.2 SEC. GROUND GUIDANCE SYSTEM DATA

PAGE THREE
INDICATE THE BOOSTER COAST APOGEE WAS 123.62 NM /NOMINAL CLN 123.54
NM/ AND THE BOOSTER COAST APOGEE VELOCITY WAS 9588 FPS /NOMINAL CLN
9514 FPS /.
B. AGENA AIRFRAME AND ADAPTER - OBJECTIVE ACHIEVED.
NO EVIDENCE OF STRUCTURAL PROBLEMS IN THE AGENA AIRFRAME OR ADAPTER
HAS BEEN NOTED. THE RETRO-ROCKETS SATISFACTORILY PROVIDED THE THRUST
NECESSARY FOR COMPLETE SEPARATION BY T PLUS 164.8 SEC.
C. AGENA PROPULSION SYSTEM - OBJECTIVE ACHIEVED.
AGENA ENGINE IGNITION OCCURRED IN A NORMAL MANNER AT T PLUS 282.8 SEC
AND THE ENGINE OPERATED SATISFACTORILY FOR 237.3 SEC. ENGINE SHUTDOWN
OCCURRED AT T PLUS 448.1 SEC ON INTEGRATOR COMMAND. THE INTEGRATOR DATA
SHOW A SENSIBLE VELOCITY GAIN OF 16178 FPS DURING ORBITAL STAGE BOOST.
THE IMPULSE PROVIDED BY THE AGENA ENGINE WAS SUFFICIENT TO GIVE THE
VEHICLE ORBITAL VELOCITY AT FLIGHT INJECTION ALTITUDE.
D. AGENA ELECTRICAL POWER SYSTEM - OBJECTIVE ACHIEVED.
NO EVIDENCE OF AGENA ELECTRICAL POWER SYSTEM PROBLEMS HAS BEEN NOTED.
E. AGENA GUIDANCE AND FLIGHT CONTROL SYSTEM - OBJECTIVE ACHIEVED.
THE AGENA GUIDANCE SYSTEM RESPONDED PROPERLY TO A 5.65 SEC TIME-TO-FIRE
CORRECTION AND A 2.93 SEC VELOCITY -TO-BE-GAINED CORRECTION COMMANDED
BY THE GROUND
SET NE 26 INI 26
DE NAFB KC
DE SSD KC

HOW NOW AND WHERE FM PLSVUBI
SET NE 27 INI 27K
DE NAFB KC
DE SSD KC
HOV NOW AND WHERE FM PLS DINNHT

ONCE MORE SET NE 28 INI 28(
KDE NAFB KC
DE SSD KC
HOV NOW WHERE FM
DE NAFB /AND READ SSD THRU I LINE "CORRECTION AND A ETC"
DE SSD START WITH THE AGENA GUIDANCE



THE AGENA GUIDANCE SYSTEM RESPONDED PROPERLY TO A 5.65 SEC TIME-TO-FIRE
CORRECTION AND A 2.93 SEC VELOCITY -TO-BE-GAINED CORRECTION COMMANDED
BY THE GROUND GUIDANCE SYSTEM. VEHICLE ATTITUDE APPEARS TO HAVE BEEN

CONTROLLED SATISFACTORILY DURING THE COAST PHASE AND THE ORBITAL BOOST PHASE CNN AND CONTROL GAS EXPENDITURE WAS SLIGHTLY HIGHER THAN NORMAL DURING BOTH OF THESE PERIODS. ENGINE SHUTDOWN WAS COMMANDED SATISFACTORILY BY THE INTEGRATOR CNN AND THE D-TIMER PROPERLY CONTROLLED THE TIME AND SEQUENCE OF ALL PROGRAMMED EVENTS THAT WERE SCHEDULED TO OCCUR PRIOR TO LOSS OF TELENTERED DATA AT VTS.
F. AGENA SPACE COMMUNICATIONS SYSTEM - OBJECTIVE ACHIEVED.
OPERATION OF THE ACQUISITION BEACON AND THE RADAR BEACON WAS SATISFACTORY. VTS TRACKED THE ACQUISITION BEACON FROM LIFTOFF TO T PLUS 527 SEC AND THE RADAR BEACON FROM LIFTOFF TO T PLUS 482 SEC. AT T PLUS 511 SEC CNN THE TIME OF TELEMETRY DATA FADE FOR VTS CNN ALL TELEMETRY CHANNELS WERE OPERATING. AT THIS TIME THE ORBITAL TIMER WAS SET AT 5466 SEC CNN IN THE RESET-ON POSITION CNN IN THE INCREASE MODE CNN AND ALTERNATE RE-ENTRY DISARM STATE. NO GROUND COMMANDS WERE SENT DURING THE ASCENT PHASE.
G. AEROSPACE GROUND EQUIPMENT- OBJECTIVE ACHIEVED.
BOOSTER AND ORBITAL STAGE CHECKOUT WAS SUCCESSFULLY ACCOMPLISHED DURING THE PRE-LAUNCH COUNTDOWN BY THE AEROSPACE GROUND EQUIPMENT CNN HOWEVER SEVERAL PROBLEMS OCCURRED. THE AGENA AGE PROPELLANT LOADING EQUIPMENT MALFUNCTIONED AND LOADED 17 LBS EXCESS OXIDIZER. THE LOAD WAS ADJUSTED

BY DRAINING A SMALL AMOUNT OF OXIDIZER FROM THE VEHICLE BY USE OF A HAND VALVE. FINAL LOADING OF OXIDIZER FROM THE VEHICLE WAS 5 LBS SHORT OF NOMINAL BUT WITHIN SPECIFICATION. DURING THE EVALUATION PERIOD FOLLOWING AGENA PRESSURIZATION CNN A HELIUM LEAK WAS INDICATED ON BLOCKHOUSE INSTRUMENTATION. EVALUATION SHOWED THAT THE LEAK WAS IN THE AGE. RATHER THAN DELAY THE LAUNCH FOR REPAIRS CNN THE VEHICLE HELIUM PRESSURIZATION WAS RE-ACCOMPLISHED DURING TERMINAL COUNTDOWN WITH HELIUM FLIGHT PRESSURE BEING MAINTAINED BY TOPPING OFF UNTIL UMBILICAL RELEASE.
PRIOR TO START OF TERMINAL COUNTDOWN CNN BLOCKHOUSE INSTRUMENTATION INDICATED THAT THE THOR ENGINE REGULATOR DISCHARGE PRESSURE WAS OSCILLATING. INVESTIGATION SHOWED THAT THE INDICATION WAS ERRONEOUS AND THE COUNTDOWN WAS CONTINUED. DURING TERMINAL COUNT THE THOR 95 PERCENT LOX SWITCH FAILED TO ACTUATE. THE SWITCH WAS BYPASSED AND AFTER EVALUATION THE COUNTDOWN WAS RECYCLED TO THE START OF PHASE V.
H. DISCOVERER SYSTEM FACILITIES - OBJECTIES ACHIEVED.
THE AGENA TELEMETRY SIGNAL WAS RECEIVED AND RECORDED BY VTS FROM LIFTOFF TO T PLUS 526 SEC AND GOOD
FLIGHT DATA WERE DERIVED FOR THE PERIOD FROM LIFTOFF TO T PLUS 511 SEC.
SCP-4
BT
16/0445Z NOV

[redacted]

ZWB885
WZB005
O P 160445Z
FM 6595 AEROSPACE TEST WG VAFB CALIF
TO SSD LOSA CALIF
6594 AEROSPACE TEST WG SUNNYVALE CALIF
LMSC SUNNYVALE CALIF
ZEN/LMSC VANDENBERG AFB CALIF
ZEN/DOUGLAS ACFT CO VANDENBERG AFB CALIF
INFO ZEN1STRATAD VANDENBERG AFB CALIF
6555 AEROSPACE TEST WG PATRICK AFB FLA
AFLC WRIGHT PATTERSON AFB OHIO
SBAMA NORTON AFB CALIF
ZEN/DET 1 AFLC VANDENBERG AFB CALIF
ZEN/GDS MDR 1 WOMR VAFB CALIF
BT

S E C R E T/ FROM VWZD-15-11-208-S. SECTION II OF II. PRESTO FLASH
SSD FOR SSZD SEMCLN 6594TW FOR COL MOORE SEMCON LMSC/SUNNYVALE FOR
TWRGA-3 /J.J. DRIEFUSS/ SEMCLN LMSC/VAFB FOR DEPT 65-44 SEMCLN DAC/
VAFB FOR MR HECKMAN. INFO CLN 1STRATAEROSAPCEDIV FOR COMMAND POST AND
WDOPO SEMCLN AFLCSG/VAFB FOR MR YOUNG SEMCLN 6555TW FOR COL VIGNAL
SEMCLN SBAMA/NORTON AFB FOR SBVP SEMCLN AFLC/WRIGHT PATTERSON FOR
MCGO. SUBJECT CLN FLASH REPORT ON THE LAUNCHING OF DISCOVERER 35.
THE VTS VERLORT RADAR PRODUCED GOOD ANALOG AND DIGITAL DATA RECORDS
FOR THE PERIOD FROM LIFTOFF TO LOSS OF TRACK AT T PLUS 482 SEC. STATION
COMMUNICATIONS DURING THE LAUNCH OPERATION WERE ADEQUATE. VTS DECOM-

... USED FOR CHANNEL 16 BECAME INOPERATIVE DURING PHASE
... DURING ASCENT.
3. PRE-LAUNCH COUNTDOWN
THE COUNTDOWN STARTED AT 0538 PST ON 15 NOV 1961 AND PROGRESSED TO
LIFTOFF
BT NR 01 INT 01K
DE SSDKC
DE VAFB KC
NOW NOR NOW NOV
WILL GA FM PAGE TWO

[redacted]

PAGE TWO
MUTATION EQUIPMENT USED FOR CHANNEL 16 BECAME INOPERATIVE DURING PHASE
[illegible] DURING ASCENT.
3. PRE-LAUNCH COUNTDOWN
THE COUNTDOWN STARTED AT 0538 PST ON 15 NOV 1961 AND PROGRESSED TO
LIFTOFF WITH 3 HOLDS TOTALING 83 MINUTES. HOLD NO. 1 LASTED 78 MINUTES
WITH 50 MINUTES DUE TO RANGE CLEARANCE PROBLEMS WITH TRAINS AND 28
MINUTES DUE TO AN AGENA AGE HELIUM LEAK AND A FAULTY INDICATION ON THE
THOR ENGINE REGUALTOR DISCHARGE PRESSURE MONITOR. HOLD NO 2 LASTED 1 MINE
AND RESULTED FROM THE FAILURE OF THE THOR 95 PERCENT LOX SWITCH TO
ACTUATE. HOLD NO. 3 WAS OF 4 MINUTES DURATION AND WAS DUE TO VTS
DECOMMUTATION EQUIPMENT PROBLEMS.
4. PAD DAMAGE.
DAMAGE TO THE PAD EQUIPMENT AND FACILITIES WAS NOR [redacted]
ILITATION WORK IS EXPECTED TO BE SIMILAR TO THAT A [redacted]
FROM THIS PAD. SCP-4.
BT
16/0500Z NOV

[redacted]